

ABERDEEN AREA INDIAN HEALTH SERVICE  
FISCAL YEAR 1997 ANNUAL ENERGY REPORT

October 1997

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INTRODUCTION

The annual energy report has been prepared in accordance with the DHHS FY 1995 Energy Reporting Format, dated September 18, 1995. The guidelines will assist in meeting the reporting requirements of the National Energy Conservation Policy Act (NECPA) as amended by the Energy Policy Act of 1992 (EPACT).

The total Area Energy consumption in FY 1997 was 134,278 BTU per gross square foot per year. This total represents 18.9 % reduction from the base line FY 1985. The total cost of energy in FY 1997 was \$1.309 per gross foot.

1. (1) Energy Consumption and Cost Data: Aberdeen Area consists of 26 facilities which delivers health care to the nearby communities. All together these health facilities consume 134,278 BTU per square foot per year. Some of the Health Care Facilities are small and others are larger. The total cost of operating these health facilities is \$ 1.309 per sq ft/year.

(2) Energy Conservation Program Summary

At present DFM is working to set up a Performance Contract Goals and to describe the charge and how to achieve it. DFM is working with engineers from ES S to set up this major contract and meet Energy Conservation goals as mandated in the Executive Order 12902. Some of the smaller projects undertaken by Facility Managers are described and in other sections of this report.

2. Energy Consumption Reduction Goals

Aberdeen Area (AA) has moderately aggressive Energy Policy under which all energy saving activities, some of which were no cost or low cost, have been considered and implemented. Division of Facilities Management (DFM) through its energy awareness campaign over the period of time has been successful in training Facility Managers. The trained Facility Managers are the experts now and are making small projects happen to reduce energy consumption.

One of the larger project is Performance Contracting. This mode of contracting suites public and private sectors. This project Performance Contracting can put us over the mandate of 30 % energy reduction by 2005. This is mandated by Executive order 12902.

Eight Energy Audits done in 1995 and 1996 are being implemented now. The information in the audits, specially the lighting retrofit is turning out to be very valuable. DFM is working with Engineers from Engineering Services (ES S), Seattle office. At this time DFM can predict that by mid year 1998 DFM will be much closer to having a Performance Contract. Comparing data from 1996 to 1997 reveals that 1996 was approximately 18 percent higher than 1997. This is a significant reduction. During 1997 DFM was able to fine tune Energy data and with positive feedback from Facility Managers brought about this change.

C. Energy Savings Performance Contracting

Aberdeen Area has been very active in preparing and getting ready for Performance Contracting. The Area is working with Engineers from ES S to prepare a RFP and seek performance contracting contracts. DFM working with ES S is one avenue that DFM is trying to develop a contract. The data prepared by ES S will remain as a necessary data which can be used by ES S or DOE or any private company.

The DOE remains the best opportunity to get into Super ESPC contract . The data which is being developed will be used by any body related to ESPC and team up with Area staff, ES S or DOE. It is real that DFM is up to speed and its just matter of time when a performance contract will be in place.

D. Energy Efficiency and Water Conservation Project Funding

The AA has its own funding of \$250,000 for implementing energy related projects. The area has set this aside for use in developing a Performance contract. Other Projects are being realized at service units:

Pine Ridge comprehensive health facilities has installed motion sensors in the hospital. Also Pine Ridge has negotiated a reasonable reduction in electric rates. This saves energy.

Sisseton has had construction to up grade the facility. Sisseton has a policy that any light bulb going out will be replaced with an energy saving bulb. This is a slow start but it certainly indicates that Facility Managers are now fully aware of benefits from reduction in energy usage.

Presently Rosebud is going through a major retrofit project which includes lining all Air Handlers, replacing old motors with high efficiency motors, Installing separate cooling unit which would replace the 200 ton chiller, saving energy.

All Area Facilities have been turned off incinerators saving 10% fuel consumption.

Rapid City service unit is undergoing a HVAC retrofit which has been designed with energy conservation in mind. The project is under construction and no figures are available.

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5. Energy and Water, Surveys and Audits

Energy surveys were performed by the Power companies serving the Health Care facility. These surveys re assured that a Audit should be done according to DFM specifications. Accordingly AA DFM secured the services of South Dakota State University at Brookings which in compliance with the Scope of work performed the comprehensive audits at Eight Aberdeen Area facilities. The recommendations from these audits will be included in ESPC Package. The Mechanical Engineer at the area office is working with the Engineers at the ES Seattle Office to prepare a list of Water Conservation Opportunities. Following is a narrative on water conservation:

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Use less water. Excessive use of water can bring about the following: Needs more energy to heat the water and needs larger containers to store the water. Needs pipes to transport the water from one place to another. Takes more energy to heat and keep it hot or warm. The waste water needs to be treated. An integral part of the water system is a pump. There is pump for every reason. A pump is a high cost item plus the cost of its installation. As we think water is important to humans and others in more ways than one. Research is progressing and different data about clean water is surfacing. All Water conservation projects will be part of the proposed ESPC.

The final Comprehensive Audits were performed on eight facilities and consisted of 338200 GSF. The recommendations from these Audits are going to be a part of the ESPC. The Water Conservation Projects will be included and implemented with the ESPC contract package.

F. Implementation Of Energy and Water Conservation Projects

One additional comprehensive Energy Audit , at Winnebago, has been completed in 1997. Energy saving opportunities from this audit will be a part of the comprehensive list prepared by DFM. This list will be an integral part of the ESPC. Same is true for the water conservation opportunities.

7. Solar and other renewal Energy  
No information to report.

H. Minimization of Petroleum-Based Fuel Use

No information to Report

1. Energy Efficient operation/Maintenance Procedures

DFM prepared a list of 300 low cost or no cost energy saving opportunities and distributed To all Facility Managers (FM). This list was presented to FM at the Facility Managers Workshops, in parts, was implemented and resulted in energy savings as reported in the first part of this report.

Application of these Energy Saving opportunities and Energy Efficient operations have become a part of every maintenance department at Aberdeen Area Health Care Facilities

J. Energy Efficiency in New Space.

New facilities , like Rosebud, Belcourt, Wagner , Pine Ridge and The Aberdeen Area Youth Treatment center have adopted IHS policie to insure that the design and construction of new facilities is according to American Hospital Association and The Society for Hospital Engineering to assure application of all energy standards for JCAHO approval. All AA hospital are JCAHO Approved.

11. Performance Evaluation

The Area Facilities Engineer and Mechanical Engineer have energy management in their annual performance evaluation. Formal and informal training is provided to all Facility Managers. Energy Awareness in the form of training has been provided and the results are positive. This awareness motivates them to undertake energy saving projects. Training is also provided at the Facility Managers Workshop and the most of the training is through self motivation "on the job training".

12. Incentive Awards

No information to report.

M. Procurement of Energy Efficient Products

Facility Managers have been trained and are fully aware of the need to purchase energy Efficient products to meet the goals of the Executive Order 12902.

N. Energy Management Training

Formal and informal training is provided at the Facility Managers Work Shops. Informal training is "on the job training" and formal training is through Work Shops. Some of the facilities now have energy management hardware and software to control the HVAC systems and be able to control temperatures and all other points which play a significant role in the use of energy.

15. Environmental Benefits of Energy Management Activities

Air pollution is reduced as Area Facilities discontinue incinerator use.

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## ENERGY CONSUMPTION AND COST DATA

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IHS AREA:	ABERDEEN	REPORTED YEAR:	1997
PREPARED BY:	Najam Ikramullah	TITLE:	Mechanical Engr.
PHONE NUMBER:	605/226-7461	DATA SUBMITTED:	10-31-97

**Buildings/Facilities**

Energy Type	Reporting Units	Annual Consumption	Annual Cost (\$)	Unit Cost	Total Btu MM
Electricity	KWH	16,760,420	887,172	0.05	57.383
Fuel Oil	Gallons	373,794	302,994	0.81	52.274
Natural Gas	Thous. Cu.Ft.	5,345	58,627	10.97	17.522
LPG/Propane	Gallons	104,080	87,011	0.84	9.842
Coal	S. Ton				
Purch. Steam	MMBtu				
Other	MMBtu				
TOTALS			\$1,335,804		137.021

Gross Square Feet	Btu/Gross Square Feet	\$/Gross Square Feet
1,020,428	134,276	1.31

\_\_\_\_\_  
Area Facilities Engineer\_\_\_\_\_  
Date\_\_\_\_\_  
Area Associate Director, OEHE\_\_\_\_\_  
Date

ENERGY CONSERVATION PROGRAM SUMMARY

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IHS AREA ABERDEEN

PREPARED BY Najam Ikramullah

PHONE NUMBER 605/226-7461

REPORTED YEAR 1997

TITLE Mechanical Engineer

DATE SUBMITTED 10-31-97

**DIRECT AGENCY EXPENDITURES**

Direct expenditures on facility energy efficiency improvement

	Current Fiscal Year	Next Fiscal Year
Annual Expenditures	<u>\$ 134,850</u>	<u>\$ 51,040</u>

Annual savings and anticipated from expenditures 30 MMBTU \$26,5000

**ENERGY SAVINGS PERFORMANCE CONTRACTS**

Number of ESP contracts awarded \_\_\_\_\_

Annual savings anticipated from ESP contracts \_\_\_\_\_ MMBTU \_\_\_\_\_ (Thous.\$)

**UTILITY INCENTIVES**

Incentives received \_\_\_\_\_ (Thous.\$)

Funds spent in order to receive incentives \_\_\_\_\_ (Thous.\$)

Annual savings anticipated from DSM activities \_\_\_\_\_ MMBTU \_\_\_\_\_ (Thous.\$)

**TRAINING**

Current year expenditures for energy management training \_\_\_\_\_ (Thous.\$)

Number of personnel trained \_\_\_\_\_

\_\_\_\_\_  
Area Facilities Engineer      Date

\_\_\_\_\_  
Area Associate Director, OEHE      Date